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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,453	02/22/2002	Yochay Danziger	LCP-015	6654

29730 7590 02/12/2004

LASERCOMM, INC. C/O SHERWOOD PARTNERS  
1849 SAWTELLE BLVD  
SUITE 543  
LOS ANGELES, CA 90025

EXAMINER

HUGHES, DEANDRA M

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/079,453

Applicant(s)

DANZIGER ET AL.

Examiner

Deandra M Hughes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/3/2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 12-20 are objected to because they depend upon 'the method of claim 10'. However, claim 10 is not a method claim. It appears as if the applicant made a minor typographical error and intended for claims 12-20 to depend upon claim 11. In the interest of compact prosecution, the Examiner has examined claims 12-20 as if they depended upon the method of claim 11. In response to this office action, appropriate correction of the claims is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 9-11, 13, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong (US 6,453,102 filed Jul. 20, 2000) in view of Byron (US 6,215,929 filed Dec. 20, 1998).

With regard to claim 1, Dong discloses a dispersion management device comprising:

- a mode transformer (fig. 3, 16b);
- a high order mode dispersion compensating fiber (fig. 3 on spool 17) in optical communication with a first port (from 17 to 16b via 15) of said mode transformer;

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- a trim fiber (fig. 1, 12) in optical communication with a second port (16b to 12) of said mode transformer.

Dong does not specifically disclose a Raman pump in communication with the said trim fiber for inducing gain to compensate for incurred losses. However, Byron teaches the use of Raman amplification to compensate for losses incurred by dispersion compensation (col. 3, lines 40-60; and fig. 2). It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) at the time the invention was made to use pump the trim fiber for the advantage of compensating for incurred losses via Raman amplification.

With regard to claim 3, a net gain of 5 dB is disclosed (col. 1, lines 46-55).

With regard to claims 9-10, transverse and longitudinal mode converters are disclosed (col. 4, lines 10-40).

Claims 11, 13, 19-20 are merely the method of normal operations of apparatus claims 1, 3, 9-10, respectively.

4. Claims 2, 4-5, 12, and 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Dong (US 6,453,102 filed Jul. 20, 2000) in view of Byron (US 6,215,929 filed Dec. 20, 1998) as applied to claims 1 and 11, respectively above, and further in view of Dominic (US 2003/0076577 filed Dec. 22, 2000). Dong in view of Byron does not specifically disclose a controllable multiple pump source connected via a WDM coupler. However, Dominic teaches a controllable (62) multiple pump source (54-56) connected via WDM (fig. 24, #73 – pump connection via a WDM is well-known) for pumping a transmission fiber to induce Raman gain. It would have been obvious to

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one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a controllable multiple pump source to induce Raman gain for the advantage of stable Raman pumping.

Claims 12 and 14-15 are merely the method of normal operations of apparatus claims 2 and 4-5, respectively.

5. Claims 6-8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong (US 6,453,102 filed Jul. 20, 2000) in view of Byron (US 6,215,929 filed Dec. 20, 1998) as applied to claims 1 and 11, respectively above, and further in view of Hansen (US 2001/0036347 filed Jan. 30, 2001). Dong in view of Byron does not specifically disclose that the trim fiber is a dispersion-shifted fiber or a reverse dispersion fiber. However, Hansen teaches the use of non-zero dispersion shifted fiber and negative (reverse) dispersion fiber (paragraphs [0008] and [0041]) for dispersion control of the propagating signal. It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) at the time the invention was made to use non-zero dispersion shifted fiber and/or reverse dispersion fiber for the advantage of minimizing dispersion as the optical signal propagates in the fiber.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shoval and Poole disclose dispersion compensators with mode converters.


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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Black can be reached on 703-305-9707. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
DMH

  
THOMAS G. BLACK  
SUPERVISORY PATENT EXAMINER  
GROUP 3600